



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

FEB 27 2003

Ms. Karen Smith
Director
Water Quality Division
Arizona Department of Environmental Quality
1110 W. Washington St.
Phoenix, AZ 85007

Dear Ms. Smith:

On December 5, 2002, EPA partially approved and partially disapproved Arizona's 2002 §303(d) list. Specifically, EPA approved the State's decisions to list 32 waters and associated pollutants and set priority rankings for these waters. EPA disapproved the State's decisions not to list 19 waterbodies and not to list additional pollutants for 3 waters already listed by the State for other pollutants. EPA further identified these additional waterbodies and pollutants with appropriate priority rankings for inclusion on the 2002 §303(d) list.

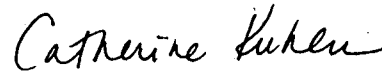
EPA provided public notice and solicited public comment on its identification of additional waters and pollutants for inclusion on Arizona's list. The comment period closed January 13, 2003. EPA has carefully reviewed the written comments received from the State and other commenters. Pursuant to the requirements of federal regulations at 40 CFR 130.7, I am hereby transmitting to you the final 2002 §303(d) list for Arizona which includes additional waters and additional pollutants for several waters already listed by the State, in addition to the 32 waters listed by the State. The additional waters and pollutants included on the final list are listed in Enclosure 1 to this letter. A detailed responsiveness summary explaining public comments received and EPA's responses is also enclosed (Enclosure 2).

With three exceptions, the additional waters and pollutants added to the list are identical to those identified for listing by EPA on December 5, 2002. First, Lyman Lake is not included on the final list for mercury because the fish consumption advisory that provided the evidence of beneficial use impairment was not issued until after the State had submitted its final list. EPA expects that the State of Arizona will consider the Lyman Lake advisory as part of the next Section 303(d) list review and revision. Second, Santa Cruz River (Canada del Oro-Guild Wash) is not listed for dissolved oxygen because EPA considered additional data provided by the commenters that was not provided to the State during its analysis, and concluded that the segment does not exceed water quality standards for dissolved oxygen. Third, dieldrin is not included in the listings of 12 segments in the Salt River/Gila River area based on the fish consumption advisory in place for these waters because recent sampling and analysis by ADEQ found that dieldrin was no longer detected in fish tissue in these segments and should no longer be included in the advisory.

EPA received 11 comment letters. Most of the comments focused on three issues- the analysis of the Santa Cruz River near Tucson, the application of narrative water quality standards for listing purposes, and the use of fish consumption advisories as evidence of water quality standards violations. We concluded that none of the comments warrants modifying the list of additional waters and pollutants identified by EPA, except for the three modifications discussed above.

We greatly appreciate the assistance rendered by your staff in reviewing the comments received concerning EPA's listing decision and look forward to working with the State during the 2004 listing process. If you have questions on any aspect of this final listing decision, feel free to give me a call at (415) 972-3435 or call David Smith of my staff at (415) 972-3416.

Sincerely,

A handwritten signature in cursive script that reads "Catherine Kuhlman".

Catherine Kuhlman
Acting Director
Water Division

Enclosures

Enclosure 1: List of Waters and Pollutants Added to Final 2002 Arizona Section 303(d) List

Description of Table Columns:

"Water Body" column identifies the water bodies on the 303(d) list.

"Watershed" column identifies the geographical location of the water body based on State's designation.

"Water body ID" column specified the water body segment based on State's designation.

"Pollutants" column identifies the specific pollutants for which the water bodies were found to exceed water quality standards.

"Basis for Listing" column identifies the basis for individual listing decisions.

"Priority Ranking" column indicates the priority ranking for TMDL development associated with an individual listing decision
(H = High; M = Medium; L = Low priority)

Water Body	Watershed	Water body ID	Pollutants	EPA basis for listing	Priority Ranking
Gila River Salt-Agua Fria	Middle Gila	AZ 15070101-015	DDT metabolites, Toxaphene Chlordane	Consumption advisory posted, ADEQ 1999 report	M
Gila River Agua Fria- Waterman Wash	Middle Gila	AZ 15070101-014	DDT metabolites, Toxaphene Chlordane	Consumption advisory posted, ADEQ 1999 report	M
Gila River Waterman Wash- Hassayampa	Middle Gila	AZ 15070101-010	DDT metabolites, Toxaphene Chlordane	Consumption advisory posted, ADEQ 1999 report	M
Gila River Hassayampa-Centennial Wash	Middle Gila	AZ 15070101-009	DDT metabolites, Toxaphene Chlordane	Consumption advisory posted, ADEQ 1999 report	M
Gila River Centennial Wash-Gillespie Dam	Middle Gila	AZ 15070101-008	DDT metabolites, Toxaphene Chlordane	Consumption advisory posted, ADEQ 1999 report	M
Gila River Gillespie Dam-Rainbow Wash	Middle Gila	AZ 15070101-007	DDT metabolites, Toxaphene Chlordane	Consumption advisory posted, ADEQ 1999 report	M
Gila River Rainbow Wash- Sand Tank	Middle Gila	AZ 15070101-005	DDT metabolites, Toxaphene Chlordane	Consumption advisory posted, ADEQ 1999 report	M
Gila River Sand Tank-Painted Rocks Rsvr	Middle Gila	AZ 15070101-001	DDT metabolites, Toxaphene Chlordane	Consumption advisory posted, ADEQ 1999 report	M
Painted Rocks Borrow Pit	Middle Gila	AZ 15070201-1010	DDT metabolites, Toxaphene, Chlordane	Consumption advisory posted, ADEQ 1999 report	M
Painted Rocks Reservoir	Middle Gila	AZ 15070101-1020	DDT metabolites, Toxaphene, Chlordane	Consumption advisory posted, ADEQ 1999 report	M

Water Body	Watershed	Water body ID	Pollutants	EPA basis for listing	Priority Ranking
Salt River 23 rd Ave WWTP-Gila River	Middle Gila	AZ 15060106B-001D	DDT metabolites, Toxaphene, Chlordane	Consumption advisory posted, ADEQ 1999 report	M
Hassayampa River Buckeye Canal- Gila River	Middle Gila	AZ 15070103-001B	DDT metabolites, Toxaphene, Chlordane	Consumption advisory posted, ADEQ 1999 report	M
Lake Mary-Upper	LCR	AZ 15020015-0900	Mercury	Consumption advisory posted	H
Lake Mary-Lower	LCR	AZ 15020015-0890	Mercury	Consumption advisory posted	H
Alamo Lake	Bill Wms	AZL 15030204-0040	Mercury	Recent fish tissue data (ADEQ 2001) shows 33 out of 33 tissue samples above screening value	H
Crescent Lake	Salt	AZL 15060101-0420	pH	Exceeded water quality standards in 6 out of 8 samples	L
Mule Gulch headwaters- WWTP	San Pedro	AZ 15080301-090A	pH	Exceeded water quality standards in 7 out of 15 samples	L
Alum Gulch	Santa Cruz	AZ 15050301-581A	pH	Exceeded water quality standards in 7 out of 7 samples	L
Three R Canyon	Santa Cruz	AZ 15080301-558A	pH	Exceeded water quality standards in 8 out of 9 samples confidence	L
Granite Basin Lake	Verde	AZL 15060202-0580	DO	Exceeded water quality standards in 3 out of 7 samples	L
Whitehorse Lake	Verde	AZL 15060202-1630	DO	Exceeded water quality standards in 5 out of 11 samples; fish kill in 1999	L

Enclosure 2:
Responsiveness Summary
EPA Decision Concerning Arizona's 2002 CWA Section 303(d) List

Introduction

EPA partially approved and partially disapproved Arizona's Section 303(d) list on December 5, 2002. EPA published a public notice of availability of its listing decision in the Federal Register on December 12, 2002 (67 FR 239 p. 76404). EPA invited public comment on its decisions to disapprove Arizona's decisions not to list certain waters and pollutants and identify these waters and pollutants for inclusion on Arizona's list. EPA did not invite comment on its decisions to approve the State's decision to list waters and pollutants identified in the State listing submittal. On December 10, EPA sent notices of availability to several dozen individuals and organizations listed on a TMDL program e-mail distribution list provided by the State. EPA also posted the notice of availability and decision documents on its Region 9 web site. Decision documents were also available upon request to staff at Region 9.

EPA received comments from 11 parties in response to the public notice. This responsiveness summary contains summaries of comments received and EPA's responses to these comments. Because similar comments were made by many commenters, the responsiveness summary groups the comments and provides summary responses. Written comments were received from the following parties (relevant comment numbers are listed):

- City of Tucson
- Pima Association of Governments
- Pima County Wastewater Management Department
- Western States Petroleum Association
- Flood Control District of Maricopa County
- Federal Water Quality Coalition
- Asarco Incorporated
- City of Phoenix, Office of the City Attorney
- Arizona Department of Environmental Quality
- Friends of Pinto Creek
- Center for Biological Diversity

In response to comments received, EPA is not including on the final Arizona 2002 Section 303(d) list three waters initially identified for listing in EPA's December 5, 2002 listing decision. First, Lyman Lake is not included on the final list for mercury because the fish consumption advisory that provided the evidence of beneficial use impairment was not issued until after the State had submitted its final list. EPA expects that the State of Arizona will consider the Lyman Lake advisory as part of the next Section 303(d) list review and revision. Second, Santa Cruz River (Canada del Oro-Guild Wash) is not listed for dissolved oxygen because EPA considered additional data provided by the commenters that was not available to the State during its analysis, and concluded that the segment does not exceed water quality standards for dissolved oxygen. Third, dieldrin is not included in the listings of waters in the Salt River/Gila River area

based on the fish consumption advisory in place for these waters because recent sampling and analysis by ADEQ found that dieldrin was no longer detected in fish tissue in these segments. The final list being transmitted to Arizona contains each of the other waters and pollutants identified for listing by EPA on December 5, 2002.

Comments and Responses

1. Santa Cruz River (Canada del Oro-Guild Wash) should not be listed because:

- **the data relied upon by the State and EPA in the assessment are not representative of water quality conditions in the segment, and**
- **the State and EPA did not consider all existing and readily available data and information.**

Response: EPA carefully reviewed the analysis provided by commenters that asserted that the USGS data relied upon by the State and EPA were not representative of water quality conditions in the Santa Cruz River segment. USGS staff who collected the data indicated that the data were not collected at the flow gauging station location which the commenters asserted is unrepresentative of the receiving water segment (personal communication with David Anning, USGS). Instead, the data were collected at a location in the active stream channel which, according to USGS field staff involved in the data collection, was representative of the segment in question. Therefore, EPA does not agree that the USGS data should not have been considered in the assessment.

However, EPA will not include Santa Cruz River (Canada del Oro-Guild Wash) on the final 2002 Section 303(d) list for Arizona because the additional data submitted by commenters supports a conclusion that water quality standards are currently being implemented for dissolved oxygen (DO). This conclusion is based on evidence that 6 samples out of 34 exceeded the water quality standards for DO. Under the assessment procedures applied by the State of Arizona for conventional pollutants such as DO, the water would not have met the State's listing criteria. Because EPA approved other listing decisions by the State based on these listing criteria for conventional pollutants, EPA concludes that it is appropriate not to add this segment to the list for DO.

Much of the data provided by commenters was not provided to ADEQ during the State's listing process and was therefore not considered by the State or made available by the State to EPA in its review of the State's listing decisions. In reviewing State listing decisions, EPA generally restricts its evaluation to the data and information contained in the State's record and the State's analysis of that data and information.

When Arizona solicited data and information from commenters and provided opportunities to comment on its draft Section 303(d) listing decisions, the State did not indicate clearly that data must be submitted at that time in order to be considered in the listing assessment process. Therefore, it was not clear to the public that data had to be submitted to the State during its assessment process in order to be considered during the listing process. EPA concludes that it is

reasonable for EPA to consider the County's data at this time because the State had not stated clearly that data submitted after the State's data solicitation and comment periods closed would not be considered as part of the assessment record.

In order to ensure that data is considered by the State and/or EPA during future listing assessments, commenters should submit all existing and readily available data to the State at the time of the State's solicitation of data and information.

2. The State's decision not to list several waters and pollutants based on application of a minimum sample size requirement was reasonable. EPA has approved similar provisions in other State assessment methodologies. EPA guidance encourages states to adopt minimum data requirements for listing assessments. EPA should not list waters for which the State determined insufficient sample sizes were available.

Response: EPA concludes that it was inconsistent with federal listing requirements for the State to dismiss a water from further consideration in the Section 303(d) listing process simply because a minimum sample size threshold was not met for a particular water body. Although the State's listing methodology provided for the State to apply a weight of evidence approach in evaluating whether individual waters warranted listing, the State did not appear to consider whether the data were sufficient to support a listing decision in these cases.

The key consideration in EPA's decision to list several Arizona waters and conventional pollutants was the fact that for each of these waters, a very high percentage of available samples did not meet the applicable numeric water quality standard for the pollutant in question. EPA's decision to list these waters is consistent with EPA's 1997 and 2002 technical guidance documents, which recommend listing of conventional pollutants in cases where more than 10% of samples exceed applicable water quality standards. Moreover, EPA's listing decision is consistent with the State's policy preference for applying statistical tests to help ensure at least a 90% likelihood that a particular water is exceeding a particular standard at least 10% of the time. The available data for the waters added by EPA exceeded applicable water quality standards in 43- 100% of the available samples. The water quality standards for these pollutants applied in the listing analysis do not specify an allowable exceedence rate. Instead, the State standards indicate that these standards "are not to be exceeded.". The applicable standards provide no basis for applying an assessment method which requires a very high exceedence rate before concluding that these standards are violated. Therefore, EPA concludes that these waters exceed the applicable water quality standards and must be listed.

EPA does not approve State assessment methodologies as suggested by the commenters. Some commenters suggested that EPA had approved Florida and Texas' similar methodologies or associated Section 303(d) lists. This is incorrect. EPA has not yet taken action on the Florida or Texas lists.

EPA guidance recommends that States develop monitoring and assessment programs that enable states to base assessment determinations on larger sample sizes in order to improve the analytical rigor of listing decisions. However, EPA guidance does not recommend that states decline to

assess waters for which smaller sample sizes are available. EPA guidance recognizes that it is possible to determine with reasonable certainty that water quality standards are exceeded even in cases where sample sizes are relatively small (see, e.g., EPA, 2002). The high frequency of exceedances observed for the waters added to Arizona's Section 303(d) list clearly supports a conclusion that the exceedances are pervasive and that water quality standards are exceeded.

3. Waters should not be listed for dissolved oxygen (DO) because DO is not a pollutant.

Response: EPA interprets the Section 303(d) regulations to require States to list waters that are impaired due to pollutant characteristics including low dissolved oxygen as well as waters impaired due to pollutants. EPA recently clarified its position by explaining that "When existing and readily available data and information (biological, chemical or physical) are sufficient to determine that a pollutant has caused, is suspected of causing, or is projected to cause the impairment, the AU should be listed [on the Section 303(d) list]. (When biological data and information indicates that the impairment is not caused by a pollutant, the AU may be placed in [a list of water impaired due to pollution.])" (Memorandum from Robert Wayland III to EPA Regions and State Directors, March 26, 2002). For the Arizona waters being added due to DO exceedances, the record does not show that the impairments are not caused by pollutants.

EPA has consistently interpreted Section 303(d) listing regulations as requiring listing of waters impaired by pollutants or characteristics of pollutants. For example, in 1978 EPA stated that "the determination of TMDLs for parameters which indicate the presence of pollutants... can be useful in certain situations and should not be excluded from consideration." (43 FR 60662, December 28, 1978). When EPA established the currently applicable regulations that govern 303(d) listing, EPA stated that "... a single TMDL covers only one specific pollutant or one property of pollution, for example, acidity, biochemical oxygen demand, radioactivity, or toxicity." (50 FR 1776 (January 11, 1985). When EPA amended and clarified the existing regulation in 1992, we restated the regulatory requirement of 40CFR 130.7(b)(4) and explained that:

"To identify water quality-limited waters that still require TMDLs, the particular pollutant causing the problem will usually be known. However, pollutants include both individual chemicals and characteristics such as nutrients, BOD, or toxicity. Moreover, many waters do not meet standards due to non-chemical problems such as siltation." (57 FR 33045 (July 24, 1992)).

In addition, EPA and the federal courts have recognized the appropriateness of addressing pollutant indicators such as dissolved oxygen in implementing the Clean Water Act. See, e.g.: 40 CFR 401.16 (including biochemical oxygen demand (BOD) and pH on the list of conventional pollutants designated pursuant to CWA sec. 304(a)(4)); EPA, Notice of Proposed Rule, National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitations Guidelines and Standards for Concentrated Animal Feeding Operations, 66 FR 2960, 3032 (Jan. 12, 2001) (dissolved oxygen); EPA, Revisions to the Water Quality Planning and Management Regulation and Revisions to the National Pollutant Discharge Elimination System Program in Support of Revisions to the Water Quality Planning and Management Regulation, 65

FR 43586, 43592 (July 13, 2000) (dissolved oxygen); *Piney Run Preservation Ass'n v. County Com'rs of Carroll County*, 268 F.3d 255 (4th Cir. 2001) (dissolved oxygen); and *U.S. v. Gulf States Steel, Inc.*, 54 F.Supp.2d 1233, 1238 (N.D. Ala. 1999) (dissolved oxygen).

4. Listing waters under Section 303(d) has serious ramifications for dischargers because TMDLs are required that would adversely affect point source dischargers.

Response: Section 303(d) listing decisions do not directly affect any discharger's rights or responsibilities and do not create direct financial or social impacts. Inclusion of a water body on the Section 303(d) list indicates that existing and readily available data and information demonstrate that the water does not meet applicable water quality standards and that a TMDL must be developed for the water body in the future (unless it is later determined that the water meets water quality standards and no longer needs to be listed, or that another required pollutant control will result in timely attainment of water quality standards (see 40 CFR 130.7(b)(1)). But the listing of a water in and of itself does not adversely impact a discharger to that water.

See, *Missouri Soybean Association v. U.S. EPA*, 289 F.3d 509, 512-13 (8th Cir., 2002) (challenge to EPA's approval of State's 303(d) list dismissed as not ripe; "MSA's complaint focuses on potential harm to its members resulting from stricter controls of the use of the challenged waters. More stringent controls on water use, however, will not occur until after TMDLs are developed and implemented. Even then, it remains uncertain whether TMDL development or regulatory implementation will adversely impact MSA's members." "We agree with the district court that until objectionable TMDLs are developed and implemented, 'MSA's claims of harm are too remote to be anything other than speculative' and are not ripe for judicial resolution.")

See also, *Missouri Soybean Association v. Missouri Clean Water Commission*, 2002 WL 45891 (Mo.App. W.D., 2002) (affirming dismissal of challenge to State-adopted 303(d) list, stating;

"Here, the 303(d) list constituted little more than discussions between Missouri and EPA. [T]he placement of waters on the list is, at best, a prerequisite to the Commission's obligation under the Act to develop TMDLs or other controls. As such, the 303(d) list does nothing to define what pollutants may be put in, for example, the Rivers, nor does the list propose or remotely suggest what should be done to clean the particular waters. In this respect, the Commission's final 303(d) list 'does not substantially affect the legal rights of, or procedures available to, the public,' ..., because the placement of a waterbody on the list merely triggers the State's obligation to establish a TMDL for that particular waterbody. The list simply advised the federal government, in the form of a list and supporting materials, what waterbodies the State has determined to potentially require TMDLs.")

To the extent NPDES permits are considered for issuance in situations where a discharge to an impaired water is involved, federal regulations governing the NPDES permitting process (e.g. 40 CFR 122.4(i) and 122.44(d) establish specific requirements with regard to discharges to impaired waters. These requirements operate independent of the Section 303(d) listing status of a particular receiving water and require the permitting authority to consider a receiving water's

attainment or nonattainment of water quality standards as part of the permit proceeding. The fact that a water body is listed pursuant to Section 303(d) does not supplant these regulatory requirements of the NPDES permitting process.

5. Waters should not be added to the list based on violations of narrative water quality standards, especially in cases where numeric standards for the pollutants in question are in effect.

Response: EPA disagrees. Federal regulations require that “For the purposes of listing waters under Section 130.7(b), the terms “water quality standard applicable to such waters” and “applicable water quality standards” refer to those water quality standards established under section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements.” (40 CFR 130.7(b)(3)). The federal regulations clearly require States to identify waters on the Section 303(d) list that violate any aspect of the applicable water quality standards, including narrative criteria. The Supreme Court has recognized that a water quality standard includes the water’s uses that are to be protected, and not merely the criteria necessary to protect the uses. See: CWA, sec. 302(c)(2)(A); *PUD No. 1 of Jefferson County v. Washington Dept. of Ecology*, 511 U.S. 700 (1994) (“Section 303 of the Clean Water Act requires ... that such standards ‘consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses.’”); 40 CFR 130.7(c)(1) (“For pollutants other than heat, TMDLs shall be established at levels necessary to attain and maintain the applicable narrative and numerical WQSs” (emphasis added); and EPA, Notice of Proposed Rulemaking, 67 FR 79020, 79023 (Dec. 7, 2002) (“TMDLs must be established at levels necessary to attain and maintain the applicable narrative and numerical water quality standards” (emphasis added); and EPA, Notice of Final Rule, 54 Fed. Reg. 23868, 23875, 23876, 23882 (June 2, 1989) (“State narrative water quality criteria must be attained and maintained in the same way as all water quality criteria. Narrative water quality criteria have the same force of law as other water quality criteria”; “Narrative water quality criteria apply to all designated uses at all flows unless specified otherwise in a state’s water quality standards.”; and, with respect to narrative criteria’s continuing force after numeric criteria are adopted, “EPA reiterates that section 301(b)(1)(C) requires that NPDES permits contain effluent limits that achieve narrative water quality criteria. This obligation applies regardless of whether or not a state has adopted a numeric water quality criterion for a pollutant of concern.” (emphasis added)).

Numeric water quality standards supplement but do not replace narrative water quality standards, particularly in cases in which designated use impairments are associated with the presence of pollutants in other water body media (e.g. aquatic sediments and fish tissue) in addition to the water column. In these cases, limiting the assessment of water quality standards attainment to the analysis of water column pollutant concentrations could result in failure to identify waters that do not attain their uses due to pollutant accumulation in sediments or fish tissue. Mercury and chlorinated pesticides, the pollutants that are the subject of listing in this case based on narrative standards violations, tend to accumulate in sediments and fish tissue and are often not detected at levels that exceed numeric water quality standards for water column concentrations

despite their presence in sediment and tissue at levels which cause use impairment to the aquatic life or fish consumption beneficial uses.

EPA's prior approval of numeric water quality standards for these pollutants does not mean that the narrative water quality standards no longer apply to them. When EPA approved these numeric standards, EPA was concluding that the combination of beneficial use designations, numeric criteria, narrative criteria, and antidegradation provisions represented in the State's water quality standards were sufficient to protect the uses of the State's waters. See, 40 CFR 131.5 and 131.6.

EPA regulations and guidance encourage States to adopt numeric water quality standards but do not state that these numeric standards would replace or supercede other aspects of a State's standards.

6. Waters should not be listed based on violations of narrative water quality standards until translator mechanisms and implementation procedures are adopted. EPA should defer to the State's interpretation that its narrative standards cannot be applied until translator mechanisms are adopted. The State's interpretation is consistent with EPA's CALM guidance (July, 2002) and Fish and Shellfish Advisories guidance (October, 2000).

Response: EPA regulations and guidance encourage States to adopt translator mechanisms to assist in implementing narrative standards and evaluating consumption advisories but do not require the adoption of such translator mechanisms as a precondition to applying narrative standards in the Section 303(d) listing process as suggested by the commenters. EPA's decision documents explain the basis for EPA's interpretation of narrative water quality standards and EPA provided opportunities for public review of the methods used to apply the narrative standards for Section 303(d) assessments. As discussed above, federal regulations require that "For the purposes of listing waters under Section 130.7(b), the terms "water quality standard applicable to such waters" and "applicable water quality standards" refer to those water quality standards established under section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements." (40 CFR 130.7(b)(3)). The federal regulations do not authorize States to decline to apply narrative standards in the Section 303(d) assessment process until translator mechanisms are adopted.

7. EPA should not have listed waters based on fish consumption advisories. The Arizona advisories relied upon by EPA are not reliable indicators of water quality standards violations.

Response: EPA disagrees that waters should not have been listed based on consumption advisories. These advisories were listed in the State's submittal along with the water segments to which they apply (Listing Report, p. IV-12). The fish consumption use of waters covered by these advisories is directly impaired; the advisories strongly discourage consumption of fish and other aquatic organisms. EPA finds that the fish consumption designated use of these waters is not being attained and the waters violate applicable water quality standards. Federal regulations governing Section 303(d) list development specifically reference water body uses as a

component of applicable water quality standards for purposes of list development (see 40 CFR 130.7(b)(3)). Moreover, as explained in the response to comment 8 below, listing these waters based on fish consumption advisories is consistent with EPA guidance.

Arizona's water quality standards establish that a surface water shall be free from pollutants in amounts or combinations that are toxic to humans, animals, plants, or other organisms, or cause off-flavor in aquatic organisms or waterfowl. A.A.C. R18-11-108(A)(4 and 5). Moreover, Arizona has adopted the designated use of "fish consumption" as a water quality standard for numerous waters. See, A.A.C. R18-11-104, and A.A.C. R18-11, Appendix B. Developing the impaired waters list requires an evaluation of whether those standards are being implemented (40 CFR 130.7(b)(1)(iii)), and the evaluation must address each of the components of the standards, including the narrative criteria and the uses designated for the water. 40 CFR 130.7(b)(3).

A fish advisory may clearly be evidence relevant to the determination to list an impaired water. The existence of a fish advisory and its content assists in determining whether the "fish consumption" designated use is being met in a water body or whether the water body is free from pollutants that are toxic to humans and other organisms.

8. EPA's listing of waters based on fish consumption advisories was inconsistent with EPA's guidance concerning use of fish consumption advisories for water quality assessments.

Response: EPA's reliance upon the State's consumption advisories to list 14 water segments is consistent with EPA's October 24, 2000 guidance concerning the use of consumption advisories in Section 303(d) assessments. That guidance explains that:

"For purposes of determining whether a water body is impaired and should be included on a section 303(d) list, EPA considers a fish or shellfish consumption advisory, a NSSP classification, and the supporting data, to be existing and readily available data and information that demonstrates nonattainment of a CWA section 101(a) 'fishable' use when:

1. the advisory is based on fish or shellfish data,
2. (refers to NSSP classifications that are not relevant to the Arizona advisories)
3. the data are collected from the specific waterbody in question and
4. the risk assessment parameters (e.g., toxicity, risk level, exposure duration and consumption rate) of the advisory or classification are cumulatively equal to or less protective than those in the State, Territory, or authorized Tribal water quality standards" (EPA Guidance, p. 3).

Each of the relevant conditions is met with respect to the Arizona consumption advisories. Each advisory is based on data collected from the water body in question and is based on risk assessment parameters equivalent to those used to calculate Arizona water quality standards (personal communication with Sam Rector, ADEQ, January 22, 2003).

9. Lyman Lake should not have been listed based on a fish consumption advisory that was not issued until after the State submitted its Section 303(d) list.

Response: EPA agrees. The final list submitted to Arizona will not include Lyman Lake for mercury based on the consideration that the fish consumption advisory that provides evidence that water quality standards are not being attained in the Lake was not available to the State during its 2002 assessment process. EPA expects that the advisory will be considered during the 2004 assessment process, and we continue to believe the advisory provides sufficient evidence to support a listing pursuant to Section 303(d).

10. EPA should not have relied upon the consumption advisory for the Salt and Gila River segments because:

- the advisory was not based on data for each segment,
- the advisory was based on risk levels that are inconsistent with risk levels used to establish water quality standards,
- the advisory was based on data that are now outdated.

Response: See response to comment 8. In addition, Arizona has maintained the advisory for these segments since 1991. ADEQ conducted additional sampling and analysis in this area and concluded that the advisory should be retained for each segment covered in the advisory because each of the pollutants were still found at levels of concern in fish tissue, with the exception that dieldrin should no longer be included in the advisory because it was not found in the recent sampling (ADEQ, 1999). Based on the more recent data analysis and staff recommendations, EPA is not including dieldrin in the final section 303(d) listing decision for these segments.

11. The Salt and Gila Rivers should not be listed because effluent limitations required by the Clean Water Act are stringent enough to attain water quality standards and because Section 303(d) does not apply to historical sediment contamination.

Response: As discussed above, the existence of the fish consumption advisory and associated fish tissue data showing levels of pesticides in fish tissue at levels unsafe for consumption provide persuasive evidence that the water quality standards are not being implemented in the Salt River and Gila River segments to which the advisories apply, and which are included on the Section 303(d) list. The record does not show that the effluent limitations required by the Clean Water Act are stringent enough to bring about attainment of the applicable water quality standards. As noted by the commenters, the probable source of the pesticides of concern in these segments is nonpoint source runoff of sediments contaminated by these pesticides and not point source runoff regulated through effluent limitations cited in Section 303(d)(1)(a). Because the effluent limitations cited in the Clean Water Act and associated federal regulations do not apply to these nonpoint sources, it is not surprising that applicable effluent limitations are insufficient to attain all applicable standards.

The commenter's argument that Section 303(d) does not apply to historical sediment runoff and is limited solely to waters impaired by certain point sources runs counter to EPA's longstanding interpretation of Section 303(d)'s requirements as well as the holdings of courts in the Ninth Circuit. EPA has consistently asserted that waters impaired due to the presence of pollutants

need to be included on Section 303(d) lists regardless of the source of the pollutants or the time of pollutant delivery to receiving waters.

Moreover, federal District and Appeals Courts have found that impaired waters must generally be listed regardless of the source. See, *Pronsolino v. Marcus*, 91 F. Supp.2d 1337 (N.D. Cal. 2000) (“Since all rivers and waters regardless of pollution source were included in the universe for which water-quality standards were required, all of them -- again regardless of source of pollution -- were included in the universe for which listing and TMDLs were required -- save and excluding only those for which effluent limitations would be sufficient to achieve compliance with standards.” (footnote omitted), at 1347, “For every substandard navigable river or water, Congress sought a determination whether the central innovation of the 1972 Act -- technology-driven limits on effluent -- would be sufficient to achieve compliance. If not, the river or water was required to go on a list of unfinished business and a TMDL calculation was required. No substandard river or water was immune by reason of its sources of pollution.”, at 1356; “TMDLs were thus required for all listed rivers and waters, at least as to pollutants identified by EPA as suitable for such calculation (and EPA long ago stated that ‘all’ pollutants were suitable for such calculation).”, at 1344; and “... [A]s to whether TMDLs were authorized in the first place for all substandard rivers and waters, there is no doubt. They plainly were and remain so today -- without regard to the sources of pollution.”, at 1356 ; *aff’d*, *Pronsolino v. Natri*, 291 F.3d 1123, 1134 (9th Cir. 2002) (“Thus, if a water segment had not met, or would not soon meet, applicable water quality standards, regardless of the source of pollution, the EPA required its identification pursuant to § 303(d)(1)(A).” (emphasis added)).

12. Not all use impairments warrant Section 303(d) listing. Impairment of a designated use does not mean that the water should be listed. Waters may not be listed if numeric water quality standards are met for levels of a pollutant in the water column, even if sediment is contaminated by that pollutant. EPA cites no evidence that the numeric water quality standards are inadequate to fully protect the fish consumption use.

Response: See response to comment 5. As discussed above, adoption of numeric water quality standards does not render narrative water quality standards inapplicable. Neither the State of Arizona nor EPA has made such determinations in adopting and approving the numeric water quality standards. Narrative water quality standards work with numeric water quality standards to identify water quality protection goals which address the full range of mechanisms through which pollutants cause adverse effects to beneficial uses. It is particularly appropriate to interpret and apply narrative water quality standards in cases, such as the case with the Salt and Gila River segments, where the pollutants are found in aquatic sediments or the tissue of aquatic organisms. In these cases, analysis of the levels of pollutants in sediment and/or fish tissue supplement the analysis of pollutant levels in the ambient water column itself. Many pollutants, such as the organochlorine pesticides in question in the Salt and Gila River segments, tend to bind quickly with sediments, and remain in the aquatic ecosystem for long periods of time, and bioaccumulate in the aquatic food chain. It is not surprising that these pollutants are not found in the ambient water at levels which do not exceed the numeric water quality standards, but are found at levels of concern in sediments or fish tissue. The fact that the numeric water column standards appear to be met in these segments for organochlorine pesticides at the same time these

pollutants are present at levels which impair fish consumption provides evidence that the numeric water quality standards, by themselves, are not adequate to protect the fish consumption use.

13. EPA may not dictate a nationally uniform interpretation that controls the manner in which state water quality are interpreted and enforced. Doing so violates the Tenth Amendment to the U.S. Constitution.

Response: EPA's action does not dictate a uniform interpretation of state water quality standards in this case. EPA considered the unique characteristics of Arizona's fish consumption advisories to determine whether it was appropriate to rely upon them as local evidence that water quality standards (and the fish consumption use in particular) are not being attained. EPA's guidance concerning the interpretation of consumption advisories for Section 303(d) listing assessments specifically recommends an analysis tailored to the specific facts associated with individual advisories, and specifically recognizes situations in which it may be inappropriate to rely upon consumption advisories as evidence of water quality standards violations.

14. Section 303(d) does not apply to pollutants regulated under Section 301(b)(2).

Response: Section 303(d) requires EPA to identify the pollutants suitable for listing and TMDL development (CWA Section 303(d)(1)(a)). On December 28, 1978, EPA issued a notice determining that under proper technical conditions all pollutants are suitable for listing and TMDL calculation (43 FR 60662, December 28, 1978).

Moreover, federal courts have found that the pollutants regulated under Section 303(d) are not limited as suggested by the commenter. The *Pronsolino* courts specifically rejected this contention (*Pronsolino v. Marcus*, 91 F.Supp.2d 1337, aff'd by *Pronsolino v. Nastri*, 291 F3d 1123 (9th Cir. 2002)). In addition, this argument is contradicted by: *Dioxin/Organochlorine Center v. Rasmussen*, 37 ERC 1845, 1848, fn. 3 (W.D. Wash. 1993) ("The Mills also contend that TMDLs are not authorized for toxic pollutants. The Court does not agree. 33 U.S.C. section 1313(d)(1)(C), and 1314(a) refer to pollutants, and do not exclude toxic pollutants."), aff'd by, *Dioxin/Organochlorine Center v. Clarke*, 57 F.3d 1517, 1527 (9th Cir. 1995) ("We do not construe the Act to exclude TMDLs for toxic pollutants."; "The EPA argues that [w]e interpret section 1313(d) as requiring TMDLs where existing pollution controls will not lead to attainment of water quality standards. We take this as an assertion that when a state has listed a water as impaired by toxic pollutants, the EPA has authority to implement TMDLs for that toxic pollutant under section 1313(d) even before technological limitations have been developed and implemented pursuant to section 1311(b)(1)(A) or (B). We hold that the EPA's interpretation is reasonable and not contrary to congressional intent."). See also, EPA, Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 65 FR 31682, 31683-84 (May 18, 2000) (discussing TMDLs to control toxic pollutant discharges).

15. EPA guidance is being applied unlawfully as a rule without rulemaking.

Response: EPA disagrees. EPA's decision to list waters for which fish consumption advisories provide evidence of water quality standards violations is based on its application of the listing requirements articulated in CWA Section 303(d) and federal regulations at 40 CFR 130.2 (defining "water quality standards" for several purposes including Section 303(d) listing as "[p]rovisions of State or Federal law which consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses."), as well as its interpretation of Arizona's applicable water quality standards, including beneficial use designations and narrative water quality standards. EPA's national guidance documents, including the October 24, 2000 guidance in question here, were issued to assist in interpreting the federal listing requirements and did not impose binding requirements on the public.

16. The comment period should have been extended

Response: Federal regulations require no minimum comment period in cases where EPA partially disapproves a State Section 303(d) listing submission and identifies additional waters or pollutants for inclusion on the list. EPA provided a 30 day comment period that was noticed in the Federal Register, EPA Region 9's web site, and through an email letter to a lengthy mailing list provided by Arizona Department of Environmental Quality. EPA received no requests for materials concerning the Section 303(d) listings and no questions about its decision until January 6, 2002, more than 3 weeks after we notified the parties on the mailing list of our decision and comment period. EPA added a small number of waters to Arizona's list, and the technical bases for the listing decisions were relatively uncomplicated. EPA judged that it was unnecessary to extend the comment period because the scope of our decision was limited and relatively uncomplicated. Moreover, CWA Section 303(d) and associated federal regulations require that EPA approve or disapprove Section 303(d) listing decisions within 30 days of receipt, indicating that EPA is expected to act as soon as possible on Section 303(d) listing decisions. Finally, we note that we received comments from 11 commenters, which indicates that the public did have sufficient time to review and comment on the decision.

17. EPA should have considered more recent data to determine whether it supports older consumption advisories.

Response: Section 303(d) and associated federal regulations do not require EPA to assemble and evaluate data and information in addition to the data and information compiled by States, unless there is evidence that the State did not assemble and consider all existing and readily available data and information. When it reviews State Section 303(d) listing submissions, EPA is not conducting a new analysis of which waters exceed water quality standards. Instead, EPA is reviewing the State's analysis to determine whether the State identified all waters and pollutants on the Section 303(d) list that meet the listing requirements. EPA generally restricts its analysis of the State's Section 303(d) submittal to the information in the record compiled by the State.

The consumption advisories identified in the State's submittal provide direct evidence of water quality standards violations, as discussed above. Neither the State nor EPA is required to

reevaluate the validity of existing consumption advisories as part of the listing analysis. Each of the advisories identified by the State and relied upon by EPA as a basis for listing waters is currently in effect.

The State provided and EPA considered more recent data concerning the pollutants covered by the existing 1991 consumption advisory for several segments of the Salt and Gila Rivers. EPA considered the data and analysis in a 1999 ADEQ report because it included recommendations to continue the advisory for most pollutants but to remove dieldrin from the advisory. Based on the more recent report, EPA removed dieldrin from the list of pollutants identified for these segments while retaining the other chlorinated pesticides identified in the advisory and analyzed in the 1999 report.

18. In the case of Alamo Lake, it was inappropriate for EPA to base the listing on fish tissue screening levels in place of Arizona's numeric water quality standards.

Response: See responses to comments 5, 6, and 12. The State and EPA are required to consider all existing and readily available data and information to determine whether any aspect of applicable water quality standards are not being implemented. Fish tissue data often provide evidence of whether pollutants are present at levels which make fish consumption unsafe or which harm the health of aquatic organisms. EPA based the listing of Alamo Lake on a finding that available data indicate that fish tissue levels of mercury exceeded widely accepted fish tissue screening levels in 100% of available samples (n=36). These screening levels identify the tissue levels beyond which fish consumption by humans is regarded as unsafe and/or the health of aquatic organisms is at risk.

19. ADEQ comments that the issuance of a consumption advisory is an indication of narrative toxic standards violation. ADEQ understands EPA's decision to list waters due to the issuance of fish consumption advisories.

Response: We appreciate ADEQ's comment and believe it provides additional support for EPA's decision to list these waters.

20. ADEQ considers the bioaccumulation of pollutants in fish tissue at levels exceeding EPA's guidelines as clear indication of water quality impairment.

Response: We appreciate ADEQ's comment and believe it provides additional support for EPA's decision to list Alamo Lake due to mercury contamination of fish tissue.

21. ADEQ suggests that EPA only list those waters with a minimum of ten samples and a minimum of five exceedences in order to meet the intent of the IWR "Planning List".

Response: EPA carefully considered ADEQ's suggestion but have decided that the available data and information indicate that each of the waters identified by EPA for inclusion on the Section 303(d) list due to numeric standards violations must be included on the final list. As described in EPA's December 5, 2002 decision, EPA does not believe that the exclusion of

certain waters from further consideration in the listing process solely because they do not meet a particular minimum sample size cutoff is inconsistent with State water quality standards and federal listing requirements. The key consideration in EPA's determination of whether these waters' water quality standards are being implemented for conventional pollutants was the number of exceedences in comparison to the number of samples available for analysis. If it had been available, EPA would also have considered other data and information concerning these waters (e.g., the magnitude of exceedences). However, EPA concludes that the data provided by the State demonstrates that these waters do not meet water quality standards. Imposition of an arbitrary minimum sample size cutoff would not improve this analysis and would likely result in not listing waters which actually violate water quality standards. Also, see response to comment 2.

22. EPA should not list the Middle Gila River until additional pesticide data is collected.

Response: The Clean Water Act and federal regulations do not authorize States or EPA to delay assessment of waters or inclusion of waters on the Section 303(d) list until additional data is collected if existing and readily available data and information provide a sufficient basis for determining that a water does not meet applicable water quality standards. As discussed in EPA's December 5, 2002 decision, EPA has determined that the consumption advisory covering several segments of the Middle Gila and Salt Rivers provides sufficient evidence that these segments do not attain all applicable water quality standards due to pesticide contamination of fish tissue.

23. One commenter criticized several State water quality standards changes (e.g. withdrawal of the numeric turbidity standard and revision of the beryllium standard) and associated State decisions not to list waters for the pollutants addressed by standards changes.

Response: The comment appears to address EPA's December 5, 2002 decision to partially approve Arizona's listing submission, including the State's decision to list or not to list particular waters for turbidity and beryllium. EPA's partial approval decision was final on December 5, 2002, and we were not inviting public comment concerning that decision because the State had already provided opportunities for public review and comment on its listing decisions. EPA was inviting comment only on its decisions to disapprove Arizona's decisions not to list specific waters and pollutants, and to identify those additional waters and pollutants for inclusion on the final 2002 Section 303(d) list. The commenter appears to support EPA's decision to add these waters and pollutants, and we appreciate that comment. However, no response to the comments concerning the State's water quality standards changes and associated State listing assessments following those standards changes is necessary because those standards and listing decisions are not currently under consideration by EPA.

24. Several waters should be listed based on information provided by a commenter.

Response: As discussed in the response to comment 23, EPA only requested public review and comment on EPA's decision to add particular waters and pollutants to Arizona's Section 303(d)

list. EPA did not request public comment concerning the State decisions to list or not list particular waters or EPA's decision to partially approve those State decisions. Therefore, no response to this comment is necessary because it does not address the specific waters and pollutants identified for inclusion on Arizona's list in EPA's December 5, 2002 decision. We will forward the information provided by the commenter to the State for consideration in the 2004 listing cycle.

25. Commenter supports the addition of the waters listed by EPA.

Response: We appreciate the comment.

26. Pinto Creek should not be removed from the 303(d) list because some segments continue to exceed the standards. Commenter also provides several comments concerning the Pinto Creek TMDL, ADEQ's work to revise the TMDL, and the Section 305(b) report.

Response: The comment appears to question EPA's decision to approve Arizona's decision not to list Pinto Creek for copper on the 2002 Section 303(d) list. Because Arizona provided ample opportunities for the public to comment on the State's draft listing decisions and demonstrated how it considered comments received in its final decision, EPA was not required to provide further opportunities for public review of the State's listing decisions or EPA's decision to partially approve Arizona's list. Because EPA also partially disapproved Arizona's listing decision because it did not include several waters which meet the federal listing requirements, EPA provided an opportunity for the public to review EPA's decision to add waters and pollutants to the State's list. No response to this comment is necessary because it does not address the specific waters and pollutants identified for inclusion on Arizona's list in EPA's December 5, 2002 decision. To the extent the comment addresses the Pinto Creek TMDL, no response is necessary because the TMDL establishment decision was final in 2000 and is not the subject of EPA's current actions.